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Pioneering Perspectives:

Innovation and Technology in Early-Stage Clinical Drug Research

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Tissue perfusion assessment to guide and improve medical treatment and decision making

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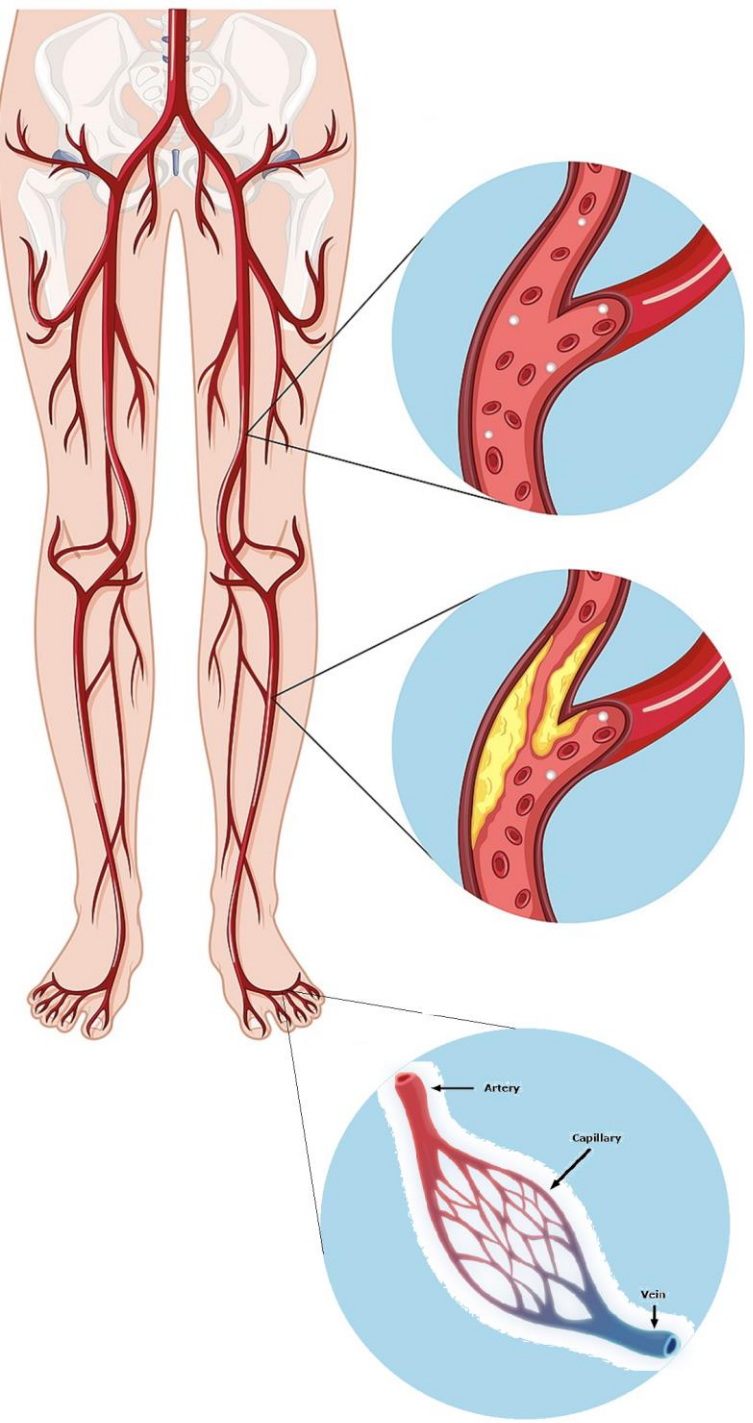
DISCLOSURE SLIDE

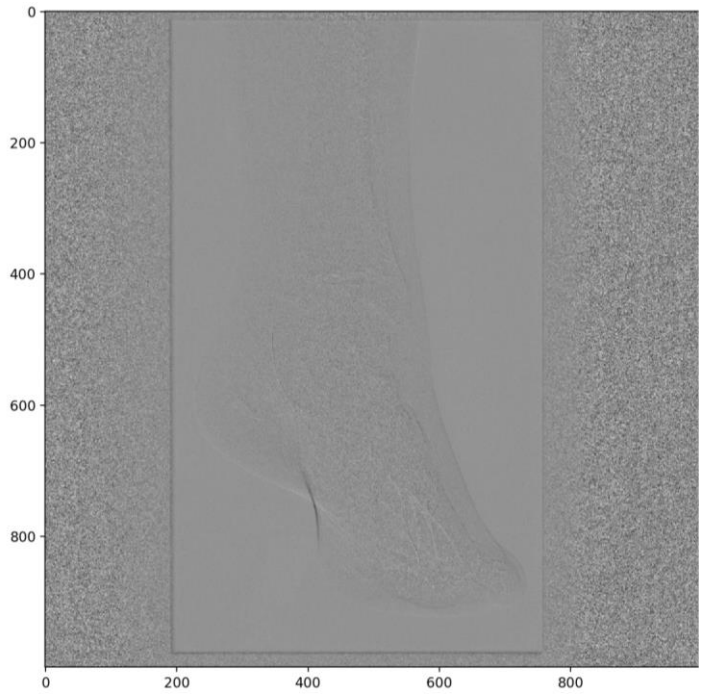
No financial interests

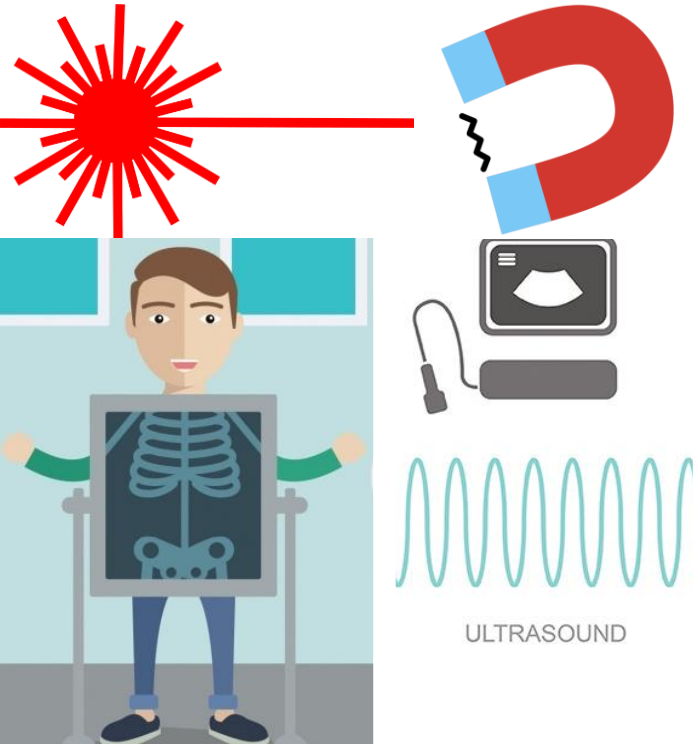


Clinical relevance of tissue perfusion

- Impaired due to an arterial stenosis or occlusion
- Impaired microcirculation (tissue perfusion)
  - Transport of oxygen and nutrients

- Tissue perfusion is pivotal for tissue survival
  - Revascularisation
  - Amputation





Quantified tissue perfusion imaging

- Traffic light to support the surgeon
- No suitable quantified techniques available

- Connecting high tech with clinical work
  - Develop new or optimise (quantitative) imaging techniques
  - Quantify the quality of treatment and predict clinical outcomes

- Two-dimensional perfusion angiography - AUC of the ROC = 0.83
- Laser speckle contrast imaging - AUC of the ROC = 0.9
- Fluorescence angiography - Clinically implemented

The future of tissue perfusion assessment

- Multimodal quantified tissue perfusion – Highlight each other's strengths
- Cell based quantified tissue perfusion assessment
  - Influence of drugs
  - Research with drugs

- Enable prediction of clinical outcomes with robust and easy to use tools

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BRIDGING PAST AND FUTURE: FIVE YEARS OF MEDTECH ADVANCEMENTS AND BEYOND